

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
13 January 2005 (13.01.2005)

PCT

(10) International Publication Number
WO 2005/002719 A1

(51) International Patent Classification⁷: **B01J 13/14**

(21) International Application Number:
PCT/KR2004/001644

(22) International Filing Date: 3 July 2004 (03.07.2004)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
10-2003-0045056 3 July 2003 (03.07.2003) KR
10-2003-0055845 12 August 2003 (12.08.2003) KR
10-2003-0077920
5 November 2003 (05.11.2003) KR
10-2004-0003651 19 January 2004 (19.01.2004) KR

(71) Applicant (for all designated States except US): **LG CHEM. LTD.** [KR/KR]; LG Twin Tower East Tower 20, Yeouido-dong, Yeongdeungpo-gu, Seoul 150-721 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **LEE, Kyung-Woo** [KR/KR]; Expo Apt. 210-1203, Jeonmin-dong,

Yuseong-gu, Daejeon 305-761 (KR). **JEONG, Yang-Seung** [KR/KR]; Donga Apt. 5-1305, Gwangyo-dong, Nam-gu, Incheon 402-705 (KR). **HA, Hyun-Chul** [KR/KR]; Hanareum Apt. 1533-901, Sang 1-dong, Wonmi-gu, Bucheon-si 420 752 (KR).

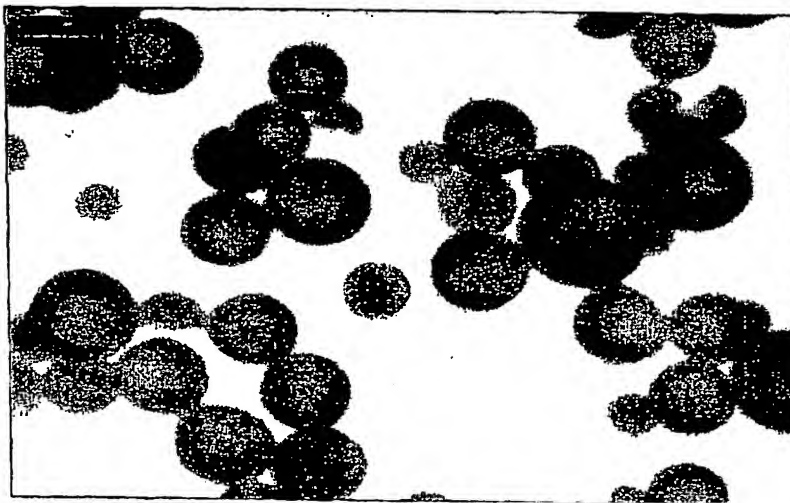
(74) Agent: **CHO, In-Jae**; 3rd Fl., Janghyun Bldg. 637-23, Yeoksam-dong, Gangnam-gu, Seoul 135-909 (KR).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

[Continued on next page]

(54) Title: METHOD FOR PREPARING MICROCAPSULE BY MINIEMULSION POLYMERIZATION



(57) Abstract: Provided is a method for preparing uniformly sized and shaped, mono-dispersed microcapsules using miniemulsion polymerization. In microcapsules prepared by the method, a liquid or solid core encapsulated by a polymer shell has 10 to 80 % by volume of the microcapsules. Since miniemulsion particles produced at an early stage of the method are stable, an organic material which is well dissolved in monomer particles and has a higher interfacial tension with water, relative to the polymer shell, can be uniformly positioned in polymer particles. Furthermore, when a crosslinking agent is added during the polymerization, single-core microcapsules can be obtained. In addition, use of an oil-soluble initiator can prevent formation of secondary particles and addition of a secondary initiator during the polymerization can increase the yield of the uniformly sized and shaped microcapsules.



SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*